

India's Number 1 Education App

BIOLOGY

BOOKS - TARGET PUBLICATION

INTRODUCTION OF BIOTECHNOLOGY



1. Choose he correct alternative

Any material that enters the body first encounters the _____ tissue.

A. connective

- B. cartilage
- C. nervous
- D. epithelial

Answer: D



2. Choose he correct alternative

Which one of the following transports oxygen

and nutrients to all cells in the body?

A. Tendon

- B. Cartilage
- C. Blood
- D. Lymph

Answer: C



3. Choose the correct alternative and write it

along with its allotted alphabet:

Protective converings in the animal body are

called.....tissues.

A. connective

B. epithelial

C. nervous

D. muscular

Answer: B

Squarish and Pentagonal shaped cells present on the skin of the back of our hands are _____epithelium.

A. stratified

B. squamous

C. glandutar

D. cuboidal

Answer: A

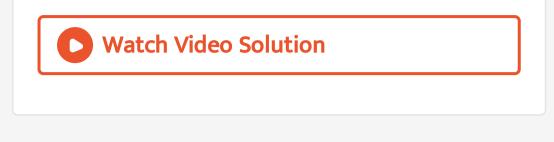




5. Choose the correct alternative Which of the following types of epithelial tissue is made up of cells that contain vesicles packed with secretory material?

- A. Glandular epithelium
- B. Cuboidal epithelium
- C. Columnar epithelium
- D. Ciliated epithelium

Answer: A



6. Choose the correct alternative

Cells of ____epithelium are column-like and bear folds on upper free surface at places of absorption.

A. glandular

B. squamous

C. columnar

D. stratified

Answer: C

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7. Choose the correct alternative

Cuboidal epithelium Present in tubules of helps in reabsorption of useful materials from urine.

A. intestine

B. kidney

C. testis

D. ureter

Answer: B

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8. Choose the correct alternative

Identify the tissue that Consists of cells filled

with fat droplets.

A. Areolar

B. Tendon

C. Lymph

D. Adipose

Answer: D

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9. Bones consist of osteocytes embedded in

solid ground substance made up of...

calcium bicarbonate

calcium carbonate

calcium phosphate

calcium sulphate

A. phosphate

B. bicarbonate

C. carbonate

D. silicate

Answer: A

Striated muscles are

A. uninucleated

B. multinucleated

C. binucleated

D. anucleated

Answer: B

Skeletal muscles are

A. striated

B. non-siriated

C. cardiac

D. involuntary

Answer: A

Non-striated muscles are NOT,

A. spindle-shaped

B. involuntary

C. branched

D. uninucleate

Answer: C

Which of the following is NOT associated with a nerve cell?

A. Cell body

B. Nucleus

C. Sacrolemma

D. Dendrite

Answer: C

Myelin sheath is present in

A. nerve cell

B. striated muscle fibre

C. parenchyma

D. cardiac muscles

Answer: A

The epidermis of the stem and leaves is

covered by a waxy layer of _____

A. apical meristem

B. cuticle

C. lateral meristem

D. parenchyma

Answer: B

Which of the following is NOT true for cells of the meristematic tissue?

A. It contains thick cytoplasm

B. It contains a conspicuous nucleus

C. These cells are highly active

D. Cells are loosely arranged

Answer: D

Identify the simple permanent tissue that is Present at the base of branches and stem.

A. Aerenchyma

B. Sclerenchyma

C. parenchyma

D. Collenchyma

Answer: D

The walls of Sclerenchyma tissue are thicker due to the layer of

A. pectin

B. suberin

C. cellulose

D. lignin

Answer: D

tissues are present in the leaf petiole.

A. Parenchyma

B. Collenchyma

C. Sclerenchyma

D. Aerenchyma

Answer: B

Xylem and phloem are____ tissues.

A. simple Permanent

B. complex Permanent

C. meristematic

D. none of above

Answer: B

The xylem contains

A. companion cells

B. tracheids

C. sieve tubes

D. stele

Answer: B

The xylem conduct(s)

A. water, in upward and downward direction

B. minerals, only in upward direction

C. amino acids, from leaves to various parts

D. sugar, only in downward direction

Answer: B

In living organisms, the cells that are capable of giving rise to a new Organism are called _____cells.

A. collenchyma

B. totipotent

C. aerenchyma

D. sclerenchyma

Answer: B



Plantlets produced by tissue culture of

the_____ are virus-free.

A. aerenchyma

B. rachides

C. meristem

D. chlorenchyma

Answer: C





25. Which of the following is an exotic variety

of cow?

Plymouth Rock

New hampshire

Black Rock

Brown Swiss

A. New Hampshire

B. Holstein

C. Plymouth Rock

D. Gir

Answer: B

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26. Choose the correct alternative Which one of the following is NOT a broiler

chicken?

A. Ascel

B. Brahma

C. Cochin

D. Leghorn

Answer: D



27. Complete the paragraph

Fill in the blanks by selecting the correct word

from the bracket and complete the given paragraph.

(in vivo, tissue culture, biotechnology, energy.

ex vivo, genctic enginecring, aseptic, agar, temperature, totipotency, tissue, collagen) Techniques for bringing about improvements in living organisms for the welfare of human beings are together called _____.It includes and tissue culture. The growth of cells in an nutrient-rich and_____ medium is called tissue culture. In this process, a liquid, solid or gel like medium is prepared from _____ which supplies nutrients and _____ necessary for the cells to grow.

Protective covering in the animal body.

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29. Name the following:

Tissue lining inner surface of the mouth.

Tissue joining muscles and bones.



31. Name the following

Muscles that function in contraction and

relaxation of the heart.



Tissue present in brain, spinal cord and

network of nerves.



33. Name the following

Tissue responsible for increaseing the height

of plants.

Tissue responsible for increaseing the girth of

stem.



35. Name the following

Simple permanent tissue that provides

support, stores food and fills vacant spaces in

plants.

36. True or False

If false, write the correct sentence

In unicellular organisms, all functions are

performed by organelles of that single cell.

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37. True or False

If false, write the correct sentence

Cells of connective tissue are loosely arranged

with a ground substance in free spaces on

between.



38. True or False

If false, write the correct sentence

Blood is a type of connective tissue.

39. True or False

If false, write the correct sentence

Glandular epithelium is made up of thin, small,

flat cells that form a semipermeable

membrane.

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40. True or False

If false, write the correct sentence

Stratified epithelium is present in inner layer

of the skin.



41. True or False

If false, write the correct sentence

Columnar epithelium is located in the mucosa

of intestine and alimentary canal.

42. True or False

If false, write the correct sentence

Many nerve cells are bound together with the

help of connective tissue to form a nerve.

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43. True or False

If false, write the correct sentence

Vacuoles are generally present in cells of

meristematic tissue.





44. True or False

If false, write the correct sentence

Xylem consists of cytoplasm containing living

cells.

Watch Video Solution

45. True or False

If false, write the correct sentence

Genetically modified Crops are produced by

introducing changes in DNA of natural crops.



46. True or False

If false, write the correct sentence

Broiler chickens are raised for eggs.

47. True or False

If false, write the correct sentence

Bombyx mori is the most commonly used

variety of silkworm for sericulture.

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48. True or False

If false, write the correct sentence

Each of the following statements is wrong.

Rewrite them correctly by changing either one

or two words.

i. Simple squamous epithelium is present in respiratory tract.

ii. Glandular epithelium is present in kidneys.

iii Chlorenchyma helps the plant to float in water.

iv. Striated muscles are also called involuntary muscles



49. True or False If false, write the correct sentence sclerenchyma helps the plant to photosynthesis.

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50. Find odd man out

Epithelium, muscle fibre, nerve fibre, epidermis.

51. Find the odd one out and give reason:

Cartilage, Bone, Tendon, Cardiac muscle



52. Odd one out

Lal kandhari, Jersey, Khillari, Sahiwal

53. Odd one out

Long, Aseel, Lehman, Cochin

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54. Complete the analogy

Tubules in kidney : Cuboidal epithelium :: Inner

layer of skin:_____

55. Complete the analogy

Cartilage : Nose, ear, larynx, trachea ::____

Between skin and muscles



56. Complete the analogy

Tendons : Join muscles to bones ::_____ : Join

two bones to each other

57. Complete the analogy

Speaking : Voluntary muscles :: Contraction of

blood vessels	:
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58. Complete the analogy

Striated muscles : Cylindrical :: Non-striated

muscles :____

59. Complete the analogy

Golden rice : Rice :: MON 810:____

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60. Match the following

24	Group 'A'		Group 'B'
i.	Connective tissue	a.	Mucous layer of mouth, tendons and ligaments
ii.	Epithelial tissue	b.	Cartilage, skin
		c.	Walls of alveoli, inner surface of blood vessels
		d.	Adipose tissue, cartilage

61. Match the following

Match the types of epithelial tissues given in Group 'A' with their functions given in Group

'B'.

1	Group 'A'		Group 'B'
i.	Columnar epithelium	a.	Selective transport of substances
ii.	Squamous epithelium	b.	Secretion of saliva
iii.	Stratified epithelium	c.	Secretion of digestive juice and absorption of nutrients
iv.	Cuboidal epithelium	d.	Protection of organs



62. Match the following

Match the types of connective tissues given in

Group 'A' with their functions in Group 'B'.

	Group 'A'	1	Group 'B'
i.	Lymph	a.	Storage of fats
ii.	Adipose tissue	b.	Transport of nutrients and hormones
iii.	Blood	C.	Supports internal organs
iv.	Areolar tissue	d.	Protects body from infections



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63. Match the following

Match the GM crops given in Group *A' with

their examples in Group 'B'..

	Group 'A'	19.00	Group 'B'
	Potato	a.	Vaishali
ii.	Tomato	b.	Vistive Gold
iii.	Maize	C.	Amflora
iv.	Soybean	d.	MON 863

Watch Video Solution

64. Why are epithelial tissues said to be simple

tissues?

Explain the importance of involuntary muscles

in human body.



66. Describe the structure of nervous tissue

with the help of a neat labelled diagram.



What is differentiation?

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68. Answer the following

In which type of living organisms meristematic

tissues are found? State their importance.

Which type of meristematic tissue is responsible for increasing the breadth and girth of the stem and root? What it called?

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70. Answer the following

What is the function of cuticle in plants?

Describe the types of parenchyma tissues with

their functions.



72. Answer the following

Why sclerenchyma tissues are important for

plant though they are dead tissue?

73. Which two main techniques are used in

biotechnology? Why?



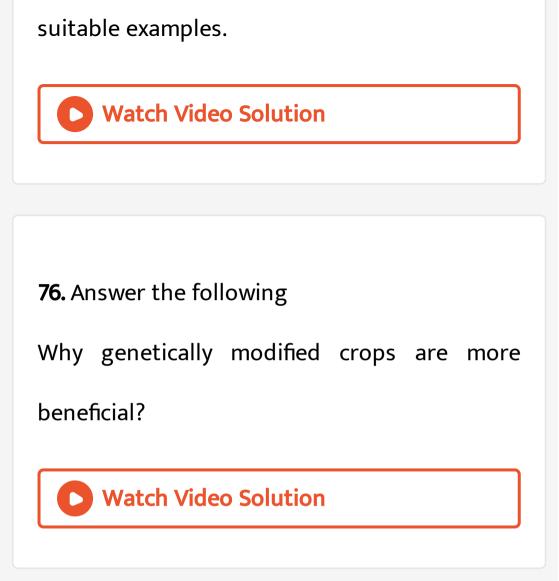
74. Define the term tissue and explain the

concept of tissue culture.

Watch Video Solution

75. Explain the meaning of biotechnology and

its impact on agricultural management with



Write examples of local Indian varieties of cow.



78. Discuss agritourism in class and write a project on an agritourism centre nearby. Present it in the class in groups.



79. Answer the following

What should an agri-tourism centre consist

of?





How should proper care of cattle be taken in animal husbandry for clean and high milk yield?

Watch Video Solution

81. Answer the following

Why are the new hybrid varieties of chicken

developed by crossing Indian varieties with

exotic varieties?



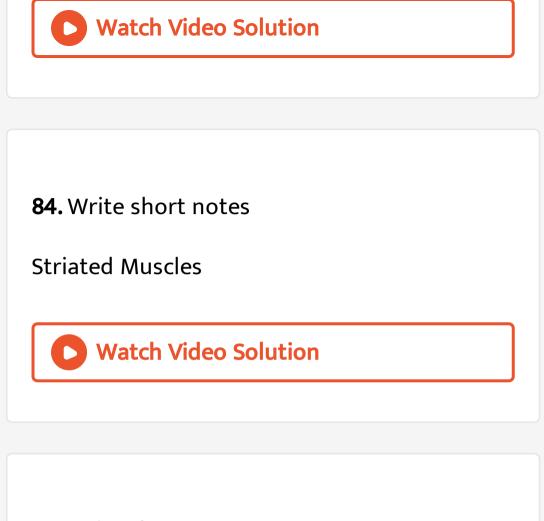
82. Write short notes

Meristematic tissue.

Watch Video Solution

83. Answer the following

Write short notes on Xylem .



85. Write short notes:

Agro-complementary business

Write short notes on Genetic enginecring.



87. Answer the following

Explain Sericulture.

Give examples of the following :

Types of animal tissues.



89. Answer the following

Give examples of the following :

Structures/ Parts of human body body made

of epithelial tissues.



Give examples of the following :

Dead cells in xylem.



91. Answer the following

Give examples of the following :

Living cells in phloem

Give examples of the following :

GM crops



93. Answer the following

Give examples of the following :

Local (Indian) cow varities.

Give examples of the following :

Exotic cow varities

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95. Answer the following

Give examples of the following :

Broilers

Give examples of the following :

Layers

Watch Video Solution

97. Answer the following

Give examples of the following :

Chickem varities reared for eggs as well as

meat.

98. Give reasons

Blood is kwon as complex an connective tissue.

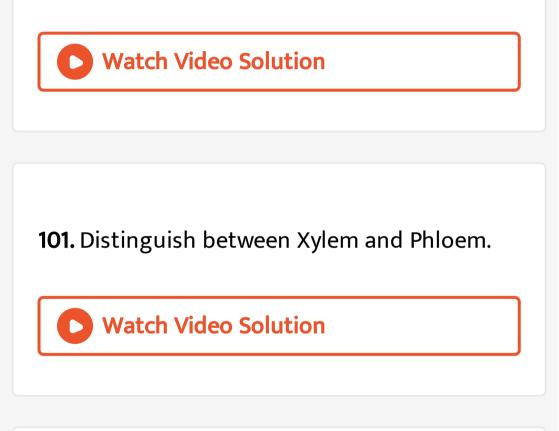


99. Give reasons

Rearing of sheep is a livestock'.

100. Distinguish between simple tissues of

plants and complex tissues of plants.



102. Distinguish between Non-striated muscles

and cardiac muscles.

103. Complete the given chart/table.

Complete the given table by filling the location

of the given connective tissues and explain the

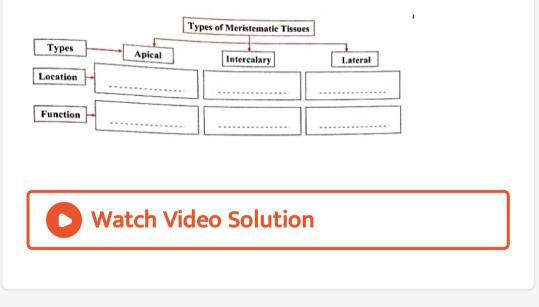
structure of each one of them.

	Types of connective tissues	Location	Structure
i.	Lymph		
ii.	Areolar Tissue		
iii.	Adipose Tissue		
iv.	Cartilage		
v.	Tendons		

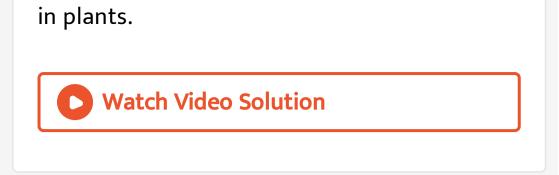


104. Complete the given chart/table.

Complete the given flow chart stating the location and function of the given meristematic tissues.

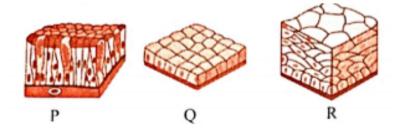


105. With the help of neat labelled diagram, explain the types of simple permanent tissues



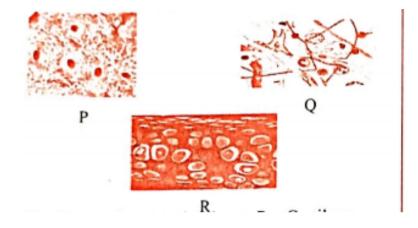
Identify the types of epithelial tissues (P, Q and

R) shown below:



Identify the types of connective tissues (P,Q

and R) shown below:





108. Question based on diagram

Sketch and label of A nerve cell.





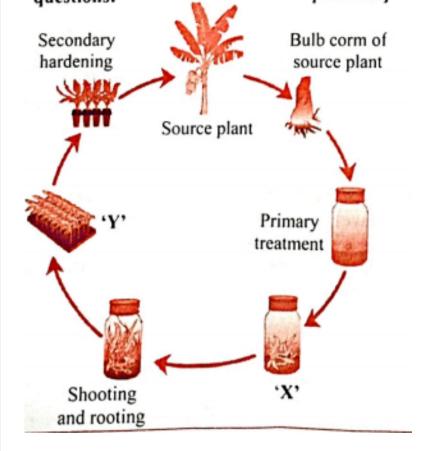
Sketch and label of Types of simple permanent

tissues in plants.

Natch Video Solution

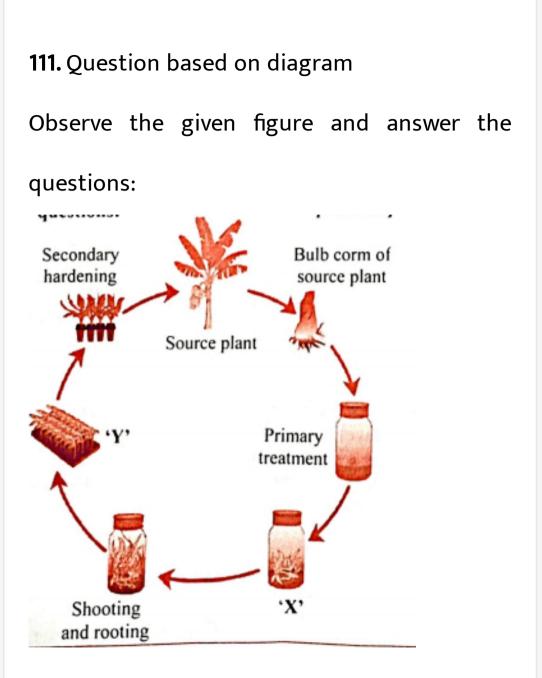
110. Question based on diagram

Observe the given figure and answer the questions:



What does the given figure represent?



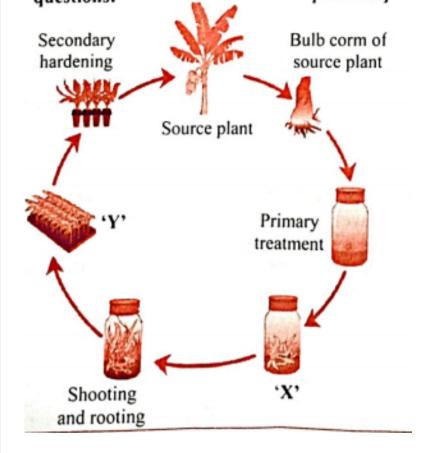


Identify 'X' and 'Y' in the given figure.





Observe the given figure and answer the questions:



What is the benefit of the technique shown in

the given figure?



113. Question based on paragraph

Students were taken to observe the crop cultivation in a potato farm in Maharashtra. The students observed that the yield of crops in Mr. Shyam's potato farm was more than that in his neighbour Bharat's potato farm. Mr. Shyam was using a different variety of the crop, which he suggests has been disease-free ever since he planted the seeds. Based on the above passage, answer the given question What type of crop do you think Mr. Shyam must be using?

114. Question based on paragraph Students were taken to observe the crop cultivation in a potato farm in Maharashtra. The students observed that the yield of crops in Mr. Shyam's potato farm was more than that in his neighbour Bharat's potato farm. Mr. Shyam was using a different variety of the crop, which he suggests has been disease-free ever since he planted the seeds. Based on the above passage, answer the given question

Do you know any superior variety of potato?



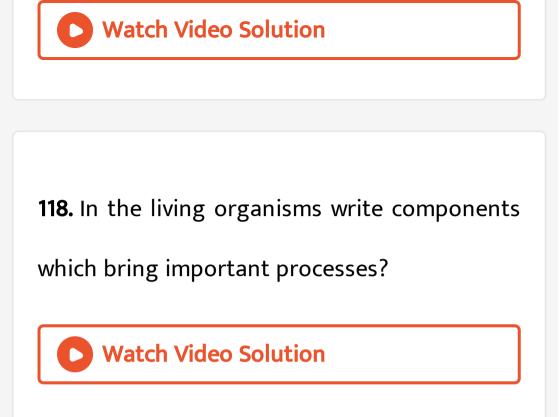
115. Question based on paragraph Students were taken to observe the crop cultivation in a potato farm in Maharashtra. The students observed that the yield of crops in Mr. Shyam's potato farm was more than that in his neighbour Bharat's potato farm. Mr. Shyam was using a different variety of the crop, which he suggests has been disease-free ever since he planted the seeds. Based on the above passage, answer the given question Are there any adverse effects of using such crops? Mention one.

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116. Question based on paragraph Students were taken to observe the crop cultivation in a potato farm in Maharashtra. The students observed that the yield of crops in Mr. Shyam's potato farm was more than that in his neighbour Bharat's potato farm. Mr. Shyam was using a different variety of the crop, which he suggests has been disease-free ever since he planted the seeds. Based on the above passage, answer the given question Apart from improved yield what added advantage did Mr. Shyam's crops have?

117. Question based on paragraph

Students were taken to observe the crop cultivation in a potato farm in Maharashtra. The students observed that the yield of crops in Mr. Shyam's potato farm was more than that in his neighbour Bharat's potato farm. Mr. Shyam was using a different variety of the crop, which he suggests has been disease-free ever since he planted the seeds. Based on the above passage, answer the given question Mention two techniques used for the production of such superior varieties of crops.



119. Name the following

The smallest structural and functional unit of

the body of living organisms?

120. Are the structure and functions of the

bodies of plants and animals the same?

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121. Why our organs like the heart, blood

vessels and intestines are enclosed in body?

122. Observe the skin of the back of your hand with the help of a magnifying lens. Do you see the closely attached squarish and pentagonal shapes?

Watch Video Solution

123. What keeps the various organs and organ

systems separate from each other? Why?

124. Observe a permanent slide of blood smear

under a compound microscope. What did you

see?



125. Why do slim persons feel more cold in

winter than those who are obese?



126. Why bones can not be folded?



127. Bend your arm at elbow. Observe the muscles in the front and the back of the arm. Straighten the arm and observe the same muscles again. Do the same with your leg folding it at the knee joint. Did you experience the contraction and relaxation of muscles at every movement?





128. Which type of muscle is the diaphragm of

the respiratory system?

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129. Close your eyes and try to identify different objects by feeling them with your hand. Why is it possible for you to identify things like a note-book, text-book, bench, compass-box, etc. only by touching them?



130. What helps us to identify the singer by merely listening to the song or to identify what is being cooked in the kitchen by the mere smell?

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131. What is the main difference the growth of

animals and plants ?



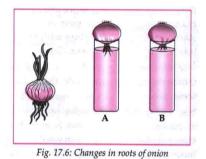


132. What is the reason behind the growth of a plant takes place only at certain parts of the plant body?

Watch Video Solution

133. As shown in the figure, place an onion on each gas jar in such a way that its base (roots) will remain dipped in water. Measure and record the length of the roots of both onions on the first, second and third day. On the fourth day, cut off 1 cm of the roots of the onion in flask B Measure the length of the roots of both onions for the next five days and

record table.



Length (cm)	Day 1	Day 2	Day 3	Day 4	Day 5
Flask A					1.1
Flask B	4			200 I I	

Why did the roots of the onion in jar B stop

growing?



134. Take a fresh and fleshy leaf of Rhoeo, lily or any other plant. Pull and press it, tearing it obliquely in such a way that its transparaent epidermis will be visible at the cut margins. Take the transparent epidermis with the forceps and keep it in dilute safranin solution for 1 minute. Spread it on a slide, cover it with a cover-slip and observe it under a compound microsope.



135. Suppose you want to grow a garden like the one shown in the picture, around your home or school. What would you do to achieve that? By which methods will you cultivate the seedlings



Fig. 17.5: Tissue culture: Plantlets of banana and farming with their help

136. You must have seen flowers of same variety but of 2 or 3 different colours borne by same plant. How is this possible? Watch Video Solution **137.** Give examples of GMCs.

Watch Video Solution

138. Collect information about GM varieties of crops in your area and make a note of them.

Also find out if there are adverse effects of GM

crops on human beings and environment.



139. Establish your own plant nursery near your school or home. Prepare the seedlings of flowering plants, fruit plants, and ornamental plants being grown in your area. Can you start a business in the future with the help of this activity? Think it over.



140. Who introduced tissue culture?



141. To which places do people choose to go on vacation in order to relax when they are tired of crowds and stressful life?

142. Enlist types and components of complex

permanent tissues.

Watch Video Solution

143. Write functions of parenchyma and its subtypes.



144. Visit a modern cowshed nearby and record the following points- The number of cattle, their variety, total milk production, cleanliness in cattle-shed, arrangements for health care of cattle.

Watch Video Solution

145. What is meant by 'white revolution?

146. Collect more information about animal

husbandry.



147. Find out from the internet the average daily milk yield from local and exotic varieties fo cow.



148. Obtain information about the diversity of butterflies. Collect detailed information about what would have to be done to establish a butterfly garden in your school.

Watch Video Solution

149. Visit an apiculture centre and gather

information about it.

150. Choose the correct alternative

Visitive Gold is a genetically modified variety of

A. rice

B. maize

C. potato

D. soybean

Answer:

151. Choose the correct atternative

Which of the following stain is used for staining leaves and stem tissues?

A. Methylene blue

B. Safranin

C. Exosin

D. lodine

Answer:



152. Choose the correct atternative

Which simple permanent tissue is present in the outer covering of coconut?

A. Chlorenchyma

B. Sclerenchyma

C. Aerenchyma

D. Parenchyma

Answer:

153. Choose he correct alternative

Which of the following is NOT true for cells of the meristematic tissue?

A. It contain thick eytoplasm

B. It contains a conspicuous nucleus

C. These cells are highly active

D. Cells are loosely arranged

Answer:

154. Find the odd one out and explain.

Collenchyma, Chlorenchyma, Aerenchyma,

Sclerenchyma



155. Identify whether the given statement is true or false. If false, write the correct statement.

Amflora is a genetically modified variety of soybean.





156. Comptete the given analogy:

Salivary gland : Cuboidal epithelium :: Inner

layer of skin:_____

Watch Video Solution

157. Answer the following

Which tissue forms protective coverings in the

animal body.

158. Why blood is considered as complex connective tissue.



159. Give scientific reasons

In today's world genetically modified crops are

more beneficial.

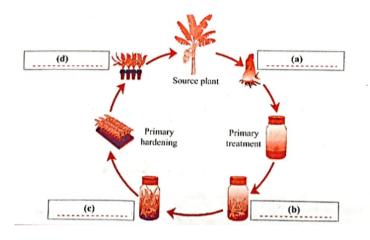
160. What are GM crops? Give examples.



161. Distinguish between:

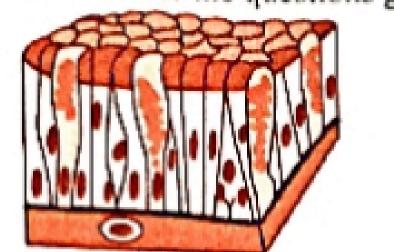
Striated muscles and Non-striated muscles.

162. Complete the following flow chart.



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163. Observe the diagram and answer the questions given below it.

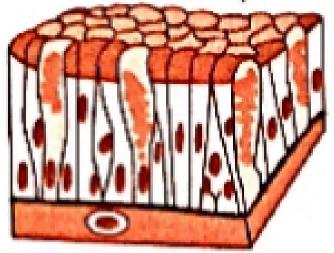


Identify the type of tissue in the given figure.

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164. Observe the diagram and answer the questions given below it.

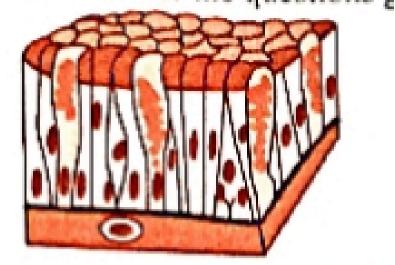




Mention the function of these tissues.



165. Observe the diagram and answer the questions given below it.



Describe the cellular structure Of the given

tissue.

Watch Video Solution

166. Collenchyma is classified as a simple permanent tissue. Explain.





167. What measures in a dairy farm should be

followed to obtain high milk yield?

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168. Read the paragraph and answer the questions given below it. The cells of the nervous tissue become excited on receiving stimuli and conduct that excitation from one part of the body to another. The cell body

containing the cytoplasm and nucleus is the main part of each nerve cell. Numerous, small, branched fibres called dendrites arise from the cell body of the nerve cell. One of the fibres is extremely long, it is called the axon. Numerous nerve cells are bound by connective tissue to form a nerve. Nervous tissue is present in the brain, spinal cord and the network of nerves spread all through the body. In most of the animals, response to stimuli occurs due to the integrated functioning of the nervous and muscular tissue.

What is the cell body of a nerve cell composed

of?



169. Read the paragraph and answer the questions given below it. The cells of the nervous tissue become excited on receiving stimuli and conduct that excitation from one part of the body to another. The cell body containing the cytoplasm and nucleus is the main part of each nerve cell. Numerous, small,

branched fibres called dendrites arise from the cell body of the nerve cell. One of the fibres is extremely long, it is called the axon. Numerous nerve cells are bound by connective tissue to form a nerve. Nervous tissue is present in the brain, spinal cord and the network of nerves spread all through the body. In most of the animals, response to stimuli occurs due to the integrated functioning of the nervous and muscular tissue.

What would happen if the nervous tissue is damaged?



170. Read the paragraph and answer the questions given below it. The cells of the nervous tissue become excited on receiving stimuli and conduct that excitation from one part of the body to another. The cell body containing the cytoplasm and nucleus is the main part of each nerve cell. Numerous, small, branched fibres called dendrites arise from the cell body of the nerve cell. One of the fibres is extremely long, it is called the axon. Numerous nerve cells are bound by connective tissue to

form a nerve. Nervous tissue is present in the brain, spinal cord and the network of nerves spread all through the body. In most of the animals, response to stimuli occurs due to the integrated functioning of the nervous and muscular tissue.

How are nerves cell bound together to form a tissue?



171. Read the paragraph and answer the questions given below it. The cells of the nervous tissue become excited on receiving stimuli and conduct that excitation from one part of the body to another. The cell body containing the cytoplasm and nucleus is the main part of each nerve cell. Numerous, small, branched fibres called dendrites arise from the cell body of the nerve cell. One of the fibres is extremely long, it is called the axon. Numerous nerve cells are bound by connective tissue to form a nerve. Nervous tissue is present in the

brain, spinal cord and the network of nerves spread all through the body. In most of the animals, response to stimuli occurs duc to the integrated functioning of the nervous and muscular tissue.

How can stimuli at one end of the body generate an impulse in the brain?



172. Read the paragraph and answer the questions given below it. The cells of the

nervous tissue become excited on receiving stimuli and conduct that excitation from one part of the body to another. The cell body containing the cytoplasm and nucleus is the main part of each nerve cell. Numerous, small, branched fibres called dendrites arise from the cell body of the nerve cell. One of the fibres is extremely long, it is called the axon. Numerous nerve cells are bound by connective tissue to form a nerve. Nervous tissue is present in the brain, spinal cord and the network of nerves spread all through the body. In most of the animals, response to stimuli occurs due to the

integrated functioning of the nervous and muscular tissue.

Functioning of which two tissues are involved

in generating a response to stimuli?